

Dr. Geetha Radhakrishnan

Associate Professor (Computer Science), RARS(SZ), Vellayani

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Summary

Joined Kerala Agricultural University as an Assistant Professor (Computer Science) in 1995. Took a sabbatical in 1999 and rejoined the university in 2012. Focusing on advancing research in Artificial Intelligence and Machine Learning for agriculture, with key contributions to smart nursery management systems and pest control solutions.

Experience

Computer Science academician with 15 years of experience in research and education. Knowledge in AI, IoT, and digital technologies for agriculture.

Current Role

- Associate Professor (Comp. Sc.), RARS(SZ), College of Agriculture, Vellayani
- Python Programming Trainer, Centre for e-Learning, KAU
- MOOC Instructor: IoT in Agriculture

Core Research & Innovation Areas

- Artificial Intelligence and Machine Learning Applications in Agriculture
- IoT-Driven Smart Systems for Precision Farming

Education

- Graduation - Bachelor of Mathematics, Kerala University (1992)
- Post Graduation – Master of Computer Application, Bharathiar University (1995)
- Ph.D in Computer Science, Bharathiar University (2021)

Certifications

- Certificate Holder ORACLE 7, Digital Computers, India 1994
- Certified Ethical Hacking (CEH), EC Council, 2015
- EC Systems Analyst (ECSA), EC Council, 2015
- Oracle Database SQL, Oracle Workforce Development Program, 2017
- Oracle Database 11g:program with PL/SQL, Oracle Workforce Development Program, 2017
- Oracle Database 11g: administration, Oracle Workforce Development Program, 2017
- Java Programming, Oracle Workforce Development Program, 2017
- Artificial Intelligence, Machine Learning, Deep Learning and Applications, EduXLabs, 2020
- Advanced Certification in Software Engineering for Cloud, Blockchain & IoT, by the Centre for Continuing Education, Indian Institute of Technology Madras, 2024

Technical Proficiency

- **Languages:** C++, Python, R
- **Web Design:** HTML
- **Databases:** MySQL, Oracle 7, NoSQL, MongoDB
- **Operating Systems:** Kali Linux, Unix, Windows, DOS,
- **Network/ Web App Security:** Nmap, Metasploit, OpenVAS, Nessus, Recon-ng, SQL Map
- **Bioinformatics Tools:** BLAST, FASTA, Clustal, RasMol, PyMol, ExPASy, RSCB PDB
- **Cloud Platform:** Amazon Web Services, Google Cloud
- **Other Skills:** IoT, Blockchain Development (Ethereum), Generative AI, shell programming

Key Research Projects

1. Development of a Smart Nursery Management System using IoT & ML Techniques. Funded by Planning Board, Government of Kerala (2022 onwards)
2. Development of an AI-Based Advisory System for Soilless Non-Hydroponics Cultivation of Vegetable Crops in Rooftop Farming. Funded by Planning Board, Government of Kerala (2024 onwards)
3. IMD Gramin Krishi Mausam Sewa (GKMS) Agro-Meteorological Field Unit (AMFU), Vellayani, India Meteorological Department (2024 onwards)

Academic Contributions

- Principal Investigator – Three Research Projects
- Co-PI/Project Associate – Two Projects
- Nodal Officer & PI – IMD GKMS Project, Vellayani
- Faculty Mentor – Entrepreneurship Cell
- Course Developer – MOOC on IoT in Agriculture, Centre for e-Learning, KAU
- Academic publications - Book (2023): *Agriculture in the 5G Era* KAU | Technical Write-up *IoT Concepts in Agriculture*, CeL (2023) | Practical Manuals, KAU (2021)
- Course Instructor – Regular UG/PG Programs

Information & Communication Technology Roles

- Webmaster - Setup & manage official RARS(SZ) website
- Content Manager – Website & Social Media, CoA Vellayani (2020–2024)
- IT Support - Events, trainings, webinars
- Promotional Content Designer – Flyers, Posters, Banners & Videos for Institutional Programs
- Hardware Upgrade Lead – Procurement & Installation of ICT Infrastructure @ RARS(SZ)

Awards & Recognitions

- Best Paper, Machine Learning Based Prediction and Forecasting of Major Diseases in Black Pepper Using Weather Data, International Seminar on Innovative Policies & community-led Solutions to Sustainable Urban and PeriUrban Agriculture (2025)
- Second place for the paper Statistical Assessment of Diurnal and Seasonal Rainfall Variability and Its Impact on Rice Productivity in Vellanikkara, Kerala from 2016 to 2023 authored by Vinu K.S, B. Ajithkumar, Geetha Radhakrishnan, Lincy Davis and Arjun Vysakh and presented at the National Conference on Frontier Technologies for Weather and Climate Based Decisions in Agriculture and Allied Sectors (AGMET-2025) jointly organized by Association of Agrometeorologists, Anand & Assam Agricultural University, Jorhat from 13-15 February, 2025 at Assam Agricultural University, Jorhat
- Young scientist award with J. Alisha Shajahan and **Geetha Radhakrishnan (2024)**. MiRPO- A Potato miRNA Database In Book of Abstracts of the 31st Swadeshi Science Congress Towards Net Zero Emission: Approaches and Strategies organised by Swadeshi Science Movement - Kerala (Vijnana

Bharati), ICAR - Central Institute of Fisheries Technology, Supported by Ministry of Earth Sciences, Govt. of India, Society of Fisheries Technologists (India) 2024(p.66). ICAR - Central Institute of Fisheries Technology, Kochi.

- Best Paper, BIOZION: International Biotechnology Conclave (2023)

Publications (2020-2025)

Journal Articles

- Geetha R., Rakhi R. and Anith K.N. (2025). Innovative Sensor Technologies in Agriculture- Applications and Challenges: A Review, *Agricultural Science Digest*, 1-10. doi: 10.18805/ag. D-6344.
- Geetha Radhakrishnan, Roy Stephen, Santosh Mitra (2024). Optimising Vegetable Fertigation with IoT and ML in Controlled Ecosystems, *Journal of Tropical Agriculture*, 62(2):272-284
- Rakhi R. and Geetha Radhakrishnan (2024), Comprehensive Analysis of Precision Farming Technologies and their Impact on Sustainable Crop Management, *Biological Forum – An International Journal*, 16(4): 234-242
- Asni Ansar, Geetha Radhakrishnan, Santhoshkumar T (2024), Deep Learning Approaches for Precise Pest Identification in Agriculture, *International Research Journal on Advanced Engineering and Management*, 2(9) 3023-3026 e ISSN: 2584-2854
- Asni Ansar, Santhoshkumar T, Geetha Radhakrishnan and Atul Jayapal (2024). Impact of Key Insect Pests on Cowpea and their Relationship with Weather Parameters, *International Journal of Environment and Climate Change*, 14(11):683-692.
- Geetha Radhakrishnan and K.L. Shunmuganathan (2018), Comparative Study of ML Classification with SMAS CSO-SVM, *Elsevier: Journal Of Advanced Research In Dynamical And Control Systems*, 10 (7) Special Issue: 525-533
- Geetha Radhakrishnan & K.L. Shunmuganathan (2018), Intelligent Query Processing from Biotechnological Database Using Co-operating Agents in a Secure Cloud Environment, *ARPJ Journal of Engineering and Applied Sciences*, 10(13): 2511-2518
- Geetha Radhakrishnan & K.L. Shunmuganathan (2018), Cloud Data Storage Security Structure with Multi-Agent System Architecture, *International Journal of Advanced Research*, 6(11):1030-1034
- Geetha Radhakrishnan & K.L. Shunmuganathan (2018), Comparative Study of JADE and SPADE Multi-Agent System, *International Journal of Advanced Research*, 6(11): 1035-1042

Book of Abstracts

- Dhanya, M. K., **Geetha, R.**, Rakhi, R., Murugan, M., & Ashokkumar, K. (2024). Integration of machine learning and meteorology to predict plant diseases: Insights from a case study on small cardamom (*Elettaria cardamomum* L. Maton). In *Book of Abstracts of the International Seminar on Spices KAU 2024* (p. 139). Regional Agricultural Research Station (Southern Zone), Vellayani.
- J. Alisha Shajahan and **Geetha Radhakrishnan** (2024). MiRPO- A Potato miRNA Database In *Book of Abstracts of the 31st Swadeshi Science Congress Towards Net Zero Emission: Approaches and Strategies organized by Swadeshi Science Movement - Kerala (Vijnana Bharati), ICAR - Central Institute of Fisheries Technology Supported by Ministry of Earth Sciences, Govt. of India, Society of Fisheries Technologists (India) 2024(p.66).* ICAR - Central Institute of Fisheries Technology, Kochi.

Technical Bulletins/Practical Manuals

- **Geetha Radhakrishnan** (2023). *IoT Concepts in Agriculture*, Published by the Centre for e-Learning, Kerala Agricultural University
- **Geetha Radhakrishnan** (2021). Practical Manuals for the course *Agri-Informatics* at CoA Padannakkad and CoA Vellayani

Popular Articles

- **Geetha Radhakrishnan**, Vinu K.S., Linitha Nair (2025). *Krishiyile RogaKeeda Nirnayathinnu Deep Learningum Kalavastha Vivaravum*, Kalpadhenu 45(3): 5
- **Geetha Radhakrishnan**, Vinu K.S., Athul Jayapal (2024). *Kaarshika Kaalaavastha Ariyanulla Mobile Aappukal*, Krishianganam 7(5)

Books

- **Geetha Radhakrishnan** and Linitha Nair (2023). *Agriculture in the 5G Era*, Kerala Agricultural University

Radio Talk

- Njangalum Krishiyilekku - AIR - Vivara Sangethika Vidhya Kaarshika Meghalayil - Dr. Geetha Radhakrishnan

Paper Presentation

- *Machine Learning Based Prediction and Forecasting of Major Diseases in Black Pepper Using Weather Data*, Innovative Policies and Community-led Solutions for Sustainable Urban and Peri-Urban Agriculture 2025
- *Deep Learning Approaches for Precise Pest Identification in Agriculture*, International Conference on Advancements in Engineering Science and Management (ICAESM) 2024
- *Enhancing Fertigation Efficiency In Vegetable Crops Under Controlled Environments Through Digital Twin Technology*, BIOZION: International Biotechnology Conclave, 2023 (Received Best Paper Award)
- *Twin Technology for Optimum Fertigation of Vegetable Crops in a Controlled Environment Through Exploitation of IoT and DL Techniques*, International Conference on Artificial Intelligence & Digital Twin Technology IconAIDTT 2023
- *A Prime Number Used To Secure The Data Through BR-PTT-23 Method*, International Conference on Artificial Intelligence & Digital Twin Technology IconAIDTT 2023

Poster Presentation

- *Technological Interventions for Smart Urban Farming: Revolutionizing Agriculture*, International Seminar on Sustainable Urban Agricultural Systems and Community Resilient Cities, on March 22nd and 23rd, 2024. at the College of Agriculture, Vellayani

MOOC Course Released

- Development and release of the MOOC course IoT in Agriculture, Centre for e-Learning, Kerala Agricultural University

Seminars/Symposia/Training/Workshops/Conferences Organized

- Future Ready with Python Programming, conducted in collaboration with UST (Semicon Vertical), Trivandrum, from 3rd to 5th June, 2025
- INIZIARO – Transforming Agriculture through Entrepreneurship, organised by the Ecell, College of Agriculture, Vellayani, on the 21st and 22nd February, 2025.

- ISSK- International Seminar on Spices- KAU 2024, 5th -7th June, member of the organizing committee
- Utthaan – Ignite your Innovations – Seminar organised by the Ecell, College of Agriculture, Vellayani, on 29th April, 2024
- International Seminar on Sustainable Urban Agricultural Systems and Community Resilient Cities, March 22nd and 23rd, 2024. at the College of Agriculture, Vellayani (Member of the Program Committee)
- KAU – CORTEVA International Plant Science Symposium 2024 conducted on the 18th – 19th of January 2024 at the College of Agriculture, Vellayani (Chairperson of the Exhibition Committee)
- BioZion International Biotechnology Conclave at College of Agriculture, Trivandrum, Kerala Agricultural University (2023) (Convenor of the Career Connect 2023 program)
- Illuminate 2023 workshop, organized by E-Cell CoA Vellayani
- Online training for farmers, ”*Karshakarkkoru Santhwanam: Noothana Sangethika Vidhyayiloode*” 2021 (during the lockdown period)
- Online Seminar on Smart Farming Systems, organized by the Regional Agricultural Research Station (Southern Zone), Vellayani on 23-03-2021, Program co-ordinators Dr. Sreekala G.S., Dr. Geetha Radhakrishnan
- Zonal Research and Extension Advisory Committee (ZREAC), organized by the Regional Agricultural Research Station (Southern Zone), Vellayani since 2020 (member of the organizing committee)
- National Webinar on Spice Improvement, Processing, and Marketing, organized by the Regional Agricultural Research Station (Southern Zone), Vellayani on 7th and 8th October 2020 (member of the organizing committee)

Seminars/Symposia/Training/Workshops/Conferences Participated

- *Mastering Patent Searching and Drafting* organized by Patent Information Centre-Kerala, KSCSTE, 2025
- *Basic Statistical Methods for Student Advisors* conducted by Dept. of Agrl. Statistics, CoA, Vellayani, 2025

Academics

- Delivering computer courses customized to meet the requirements of undergraduate, postgraduate, and PhD scholars as per the syllabus of the university
- Organising Secretary and resource person for the course *Python Programming – the Basics*, offered by the Centre for e-learning, KAU, Thrissur

Membership in Professional Associations

- Member in IEEE since 2015
- Member in the Computer Society of India since 2015

Online Presence

[Geetha Radhakrishnan - Google Scholar](#) :

https://scholar.google.com/citations?hl=en&user=DEIDMz8AAAAJ&view_op=list_works&sortby=title

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